

Solve each equation.

1. $4 \cdot \sqrt[3]{2x-7} + 1 = 11$

$$\frac{4 \cdot \sqrt[3]{2x-7}}{4} = \frac{10}{4}$$

$$\left(\sqrt[3]{2x-7}\right)^3 = (2.5)^3$$

$$2x-7 = 15.625$$

$$x = 11.3125$$

2. $(x+1)^{\frac{5}{2}} - 2 = 30$

$$\left((x+1)^{\frac{5}{2}}\right)^{\frac{2}{5}} = (32)^{\frac{2}{5}} \quad \left|\quad \sqrt[5]{\left(\sqrt[2]{x+1}\right)^5} = 32\right.$$

$$x+1 = 4$$

$$x = 3$$

$$\left(\sqrt[5]{x+1}\right)^2 = \left(\sqrt[5]{32}\right)^2$$

3. $\sqrt{x+38} + 4 = x$

$$\left(\sqrt{x+38}\right)^2 = (x-4)^2$$

$$x+38 = x^2 - 8x + 16$$

$$0 = x^2 - 9x - 22$$

$$0 = (x+2)(x-11)$$

$$x = -2, 11$$